When it first came out, broadband was any internet service that wasn't transported over the voice portion of the telephone lines. File sizes and websites have been growing exponentially with the growth of computers, so that standard is unacceptably slow. I've lived in an area with nothing faster than 2Mbps (for which they charge $50/hour), and at that rate, browsing is slow, you can't stream video (you'd have to pause a youtube video several times while it buffers data), and remote access/video chat doesn't work at all. Connecting to an office VPN could halve the thoroughput, as well.

The internet is what will determine economic growth in this century. All major businesses have a large online presence, and studies have shown that page loading times can cost businesses sales (http://blog.kissmetrics.com/loading-time/). Part of that can be handled by optimization, but many sites are evolving to give customers a better experience, and that requires more bandwidth and a new bottom line.

Bandwidth minimums and caps should be considered for a family of 3-5 people. Many Americans no longer watch television and instead subscribe to an online video service, so let's use Netflix as an example. Netflix offers several quality levels. Standard definition requires 2.2Mbps or higher. However, the new standard for television is 720p HD. They can degrade HD and still offer it at 6Mbps (with worse picture quality), but for the true experience they recommend between 7-10Mbps. With a family of 3-5 people, it's conceivable that people might be watching 2 HD movies at once. Therefore, the bare minimum for today's broadband standard should be 15-20Mbps, which would allow for 2 streaming HD movies or 1 movie and multiple other internet applications. Furthermore, as data is being sent in both directions, upstream must be at least half of the downstream to classify as broadband. Most internet users are also content producers using social media, so upstream should not be ignored. Anything below 15-20 Mbps up/7.5-10 Mbps should not be classified as broadband, to encourage companies to upgrade.

For bandwidth caps, Netflix's best quality consumes 1 GB/hour for standard definition and 2.3 GB/hour for HD. Assuming that one show is being watched at a time at the highest quality HD for 5 hours a day, in a month the household will use 345 GB of data. Some users watch that much online video and others don't, but online video is a big player in internet usage, and one of the heaviest in bandwidth consumption. Current bandwidth caps do not take online

video into consideration, thus we should take the current caps and add 2 simultaneous HD streams for 5 hours to the total. With that, we'd have 250 + (345*2)=940GB, which we should round up to 1TB for an even number. No ISP should have less than that for a monthly limit at the current prices.

Discussing the price of internet, let's compare across the world using this informational map (http://dailyinfographic.com/internet-speeds-around-the-world-infographic). The countries we want to compete with, the ones with excellent economies are Japan and Korea. Korea had 12 mbps average, 30-40 in 2011, and aims to make their new standard 1000 mbps in 2012. They're investing a lot into this. On our end, ISPs regularly offer & Mbps or lower, while their profit margins on internet service can be as high as 90%. Maintenance costs on broadband service are relatively low, and they don't reimburse/credit customers for lost service (Comcast's DNS servers go down for several hours at least once a month, and with Qwest DSL I had 2 days of downtime in a single month). There is almost no expansion or upgrading outside of urban areas, and yet prices never drop despite the increasingly lower costs of service. Instead they continue to skyrocket without any increase in service quality. Even worse, they're negotiating deals with other companies to pay for bandwidth costs when their consumers have already paid the entire cost. They're billing at both ends. The only costs they get are from interconnect fees, electricity usage and maintenance, and there are no interconnect fees between two comcast customers, even though that's counted towards the cap. Any situation where another company has paid for bandwidth costs, that should not affect any bandwidth aps. Quite frankly, with their costs, there shouldn't be any bandwidth caps at all, seing as it costs them less than 3 cents per GB transferred (http://www.theglobeandmail.com/technology/gadgets-and-gear/what-is-a-fair-price-for-internet-service/article622177/). US costs are even lower than Canadian costs, so service costs would be more realistic at $10-$20/month, with them still getting a significant profit.

Furthermore, over 3.5 billion tax dollars have been put into broadband stimulus. That's enough to pay for at least half of the current infrastructure. Frankly, I think wireless spectrum, telephone, cable and fiber lines should be government property, and the service providers should license usage from the government. That way, they'd be forced to share the same pipes and interconnect with each other. And cellular providers could use the same specturm, and instead charge other telcos for tower usage. Cellular speeds would skyrocket. For sure, any

government grants should go only into new fiber lines, and the should be government owned. South Korea can get up to 1000 GBps with 30 billion. I think we could get between 20-100 Mbps across the nation for 1/3 of that.

Finally, internet providers need to be separate from other telecommunications providers (telephones) and media providers (cable). We're not there yet, but telecommunications providers have a vested interest in POTS lines, preventing them from investing in broadband and cable providers have a vested interest in cable television (thus blocking streaming media, which is the real reason for the data caps). This is why any land deployment of broadband needs to be Fiber-only, which is concerned solely with data. And also why spectrum should be a public property shared amongst cellular providers. That way we can transition everyone to newer cell phones and use the bandwidth from all carrier on all new phones.

In summary, there is no need for bandwidth caps, as they have sufficient infrastructure and should have been putting the insanely high profits into building out new infrastructure. If they can't do that, it's time for the government to take the lines back. And even if there were caps, they shouldn't be below 1 TB for the next 5 years. Speeds should be at a minimum of 15-20 Mbps if we hope to compete with other first-world countries which invest heavily in tech.

Please stop letting the telecommunications and media companies dictate our national progress by their need for an insanely high profit margin. Internet service is now a basic human right, and is essential for economic stability.